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| CANTOR COLBURN, LLP 55 GRIFFIN ROAD SOUTH BLOOMFIELD, CT 06002 | | | WILKINS III, HARRY D | |
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Please see the attached full translation of DE 2652697.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Harry D Wilkins, III whose telephone number is 571-272-1251. The examiner can normally be reached on M-F 8:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy V King can be reached on 571-272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Harry D Wilkins, III

Examiner

Art Unit 1742

hdw

Translated from the German

Federal Republic of Germany
German Patent Office

Offenlegungsschrift 26 52 697

Date of application: November 19, 1976

Date the Offenlegungsschrift was laid open to public inspection: June 2, 1977

Priority Data: November 20, 19175, Switzerland 15086-75

Title in German of the object of the invention: Einrichtung zum Steuern bzw. Regeln einer Luftströmung

Applicant: Bongni & Cie, La Conversion (Switzerland)

Agents: E. Sturm et al., patent attorneys, Munich, Germany

Inventor: Alfred Bongni

DEVICE FOR THE CONTROL, resp. REGULATION OF AN AIR FLOW

1. Device for the control, respectively regulation [automatic control or closed-loop control] of an air flow [current of air],

characterized in that the device has a regulating mechanism, which is provided with a ballasting weight, rep. Counterweight (7), which is attached on a movable, in particular rotatable, blade, plate, or similar (1), which works together with a contraption, which is arranged in the interior of a hermetically sealed housing (14), which is provided with at least a movable, in particular rotatable magnet, resp. magnetic body or exposed conducting part (25), which acts at least upon a hermetically sealed contact (23, 24).

2. Device as claimed in claim 1,
characterized in that the blade, the plate, the slide, the slide valve, or similar (1) is arranged in

such a way that it accommodates an automatically controlled or regulated counterweight (7), which is mounted on a regulating bar or shank (5), which can be rotated, resp. swivelled about an axis (4) in a groove, resp. a slot (10) of the blade, the slide or the plate, or similar (1) , for the purposes of regulation or automatic control, resp. adjustment of the control-, resp. automatic-control device.

3. Device as claimed in claim 1 or 2, characterized in that the movable magnetic body or exposed conducting part is a small bar (25), which is mounted on a hub (26), which is provided with a motion-limiting rod (27), which is arranged between two stationary limit stops (28, 29), whereby the small bar (25) is arranged between two reed contacts [dry-reed contacts] (23, 24).

4. Device as claimed in claim 3, characterized in that the small magnetic bar (25) is arranged between the two reed contacts (23, 24) in such a way that it has a neutral range of motion, in which it does not influence the two reed contacts (23, 24).

5. Device as claimed in one of claims 1 thru 4,
characterized in that
the device operates, resp. functions in a vertical position.

6. Device as claimed on one of claims 1 thru 4,
characterized in that the device operates, resp. functions in a vertical position. [sic!!!].

6*. [*Translator=s note: This claim is crossed out and a stamp is seen with the inscription@ *ARetroactively changed*@.]

The crossed-out text is as follows: @ Device as claimed in one of the claims 1 thru 4,
characterized in that
the device operates, resp. functions in a horizontal position.@

7. Device as claimed in one of the claims 1 thru 6,

characterized in that the blade, the slide, the slide valve, the plate, or similar (1) is arranged in the interior of a channel for the control, resp. automatic control or regulation of the ventilation.

8. Device as claimed in one of the claims 3 thru 7,

characterized in that the small magnetic bar (25) opens, resp. closes the reed contacts (23, 24) as a result of magnetization, without direct contact.

9. Device as claimed in one of the claims 1 thru 8,

characterized in that the entire device is directly arranged on the access, resp. on the accesses of an air outlet.



The invention pertains to a device for the control [open-loop control], respectively automatic control [closed-loop control] of an air flow or draft. There are various circumstances, due to which it is necessary to require a device for the control, resp.. automatic control, which device is arranged on the same level as the element , or organ, to be controlled , resp. automatically controlled, is arranged, e.g., in the case of the control, resp. automatic control of the air flow or current of air [draft] of a ventilator. In the known control, resp. automatic control devices, which are in particular used for the control , resp. automatic control of the air of a ventilator, it is a question of the installation whether an alarm is provided when the electric power network malfunctions, resp. fails or breaks down, or during a variation, resp. change of the

temperature in the premises to be ventilated.

Moreover, there are known control, resp. automatic control devices, which are arranged on the level of the ventilators, and, in addition to this, are outfitted with conventional, resp. movable contacts, which easily corrode, or are provided with mercury contacts, which oscillate under the influence of the air turbulence. These device do not constitute a structure, which allows a functional automatic control in all positions.

As could rapidly be discerned, these control-, resp. automatic-control devices, provide an opportunity for the display, resp. indication of the egress or ingress of air in an absolute way, especially when, e.g., a progressive overheating of a ball-bearing occurs, which has as a consequence the triggering of a motor protective circuit without activation oaf the alarm.

With the help of the device in accordance with the invention, the aforementioned disadvantages are completely overcome, and this device - in addition to this - provides an opportunity for a structure [assembly] to be placed at our disposal, which is hermetically sealed on all sides, and is provided with an automatic control, which is very sensitive, and that [is] in the first best , resp. any operational position of the device. Moreover, reference ought to be made to the fact that the device in accordance with the invention does not have any conventional contact, which operates in the ambient air, which fact results in a functional reliability and a very long service life.

The invention is characterized by an automatic control [regulation] mechanism, which is provided with a counter-, resp. ballast- weight, and which is mounted on or at a movable slide, resp. on a movable blade, plate, or similar, which interacts with a device, which is arranged in the interior of a hermetically sealed housing which is provided at least with a movable magnetic

body or casing, which acts at least upon a hermetically sealed contact, resp. upon an air-proof and dust-proof contact.

The invention is elucidated in grater detail by means of an exemplified embodiment, diagrammatically represented in Figs. 1 thru 5 in the drawing, wherein

Fig. 1 is a cutout of a movable slide [slide-valve], resp. automatic-control mechanism;

Fig. 2 is a side view of the movable control-, resp. automatic control mechanism on a scale, which is smaller with respect to Fig. 1.

Fig. 3 is a diagrammatic view of the control-, resp. automatic control device, and, indeed, a partial section;

Fig. 4 is a diagrammatic cutout of the control- resp. automatic control device, and, indeed, a partial section; and

Fig. 5 is a diagrammatic side view of the control-, resp. automatic control device, whereby the diagrammatic representation is also a partial section.

First of all, reference is made to Figs. 1 and 2, in which an exemplified embodiment of a device in accordance with the invention is diagrammatically represented, which device has a slide [slide valve], a blade, a plate, or similar, 1, which is provided with a bending [flexure], resp. fold 2 on one of its ends, which flexure, resp. fold, forms a circular mounting support, which accommodates a tube or pipe 3, which is mounted on an axle 4. The pipe 3, is provided with a threaded hole, which supports a regulation bar 5, which is provided with an attachment-, resp. self-locking bolt 6, on one of its ends, as well as with a counter-, resp. ballast-weight 7, which can slide on the regulation bar 5, which counter- or ballast-weight, however, can be blocked over

the course of the operation of the device by means of a locking-, resp. adjustment screw 8 while the other end of the bar 5 is designed in such a way that it can accommodate a locking-, resp. clamping nut 9.

As already elucidated, the entire assembly is mounted on the bar 5, which can freely rotate in the bearings, resp., shaft-bearings 12, 13 (see Figs. 3, 4, 5) of a housing 14, which, e.g., is attached on a motor 15 of a ventilator, and, indeed, by means of a clamping collar 16, which provides an opportunity for an adjustment in the radial and in the axial plane.

As seen, the housing 14 has a hermetically sealed compartment 17, which is provided with a reverse side 18 and with a connecting plate 19, 20 each, which is used as support for reed contacts 22, 24, which interact with a magnetic bar 25, which is rigidly mounted on a hub 26, which - on its part - is set up on a bar or rod 4, or is attached on this bar in some other way. Moreover, a rod 27 is located oppositely to the magnetized bar 25, which rod 27 is used to limit the motion, resp. the rotation of the magnetized bar 25 with the help of limit stops 28, 29.

The mode of operation of the device would now be elucidated by means of Figs. 2, 4 and 5, which are arranged in immediate proximity of a ventilator 31, which - on its part - is diagrammatically represented. This ventilator brings about a suction of the blade, resp. plate 1, in the direction of the arrow A, resp. a rotation of the rod 4, as a result of which the magnetized bar 25 is driven, resp. is rotated, in the direction of the reed contact 23, which keeps closed an alarm circuit [sic], as is known in the abstract, and, as a result of which, a diagrammatic representation of this is not provided in this case, while the reed contact 24 in this embodiment has the function of the display of the reason, resp. the cause of a malfunction.

When - due to one or another reason - the ventilator 31 suddenly ceases to function, , ro

when its rotational speed (numbers of revolutions in min^{-1}) experiences a significant reduction, a decrease of the suction of air takes place, and, as a result of this, the blade, resp. the plate 1, returns it its neutral or de-energized position [inoperative position] (position B), or slows down into the neutral range of motion, as a result of which - due to the fact that the magnetized rod 25 is away from the reed contact 23 - there instantaneously occurs a switching of the alarm, and a determination of the reason for the malfunction by means of the reed contact [dry-reed contact] 24.

As can be seen from Figs. 2 and 3, the ballast weight, resp. the counterweight 7, provides an opportunity for the alarm threshold to be precisely adjusted, and - on the basis of the groove 10 - it provides an opportunity for the automatic control or regulation, resp. adjustment - in the direction of position C - of the entire system of the movable control- resp. automatic control [regulation] mechanism, and this in each position of the motor of the ventilator.

In addition to this, reference ought to be made to a significant advantage of the device, which consists in that the magnetized bar 25 can have a certain oscillation, resp. harmonic pulsation or vibration, due to changes of the suction of the air, without even having the alarm mechanism - just as much or just as little - switch on or switch off.

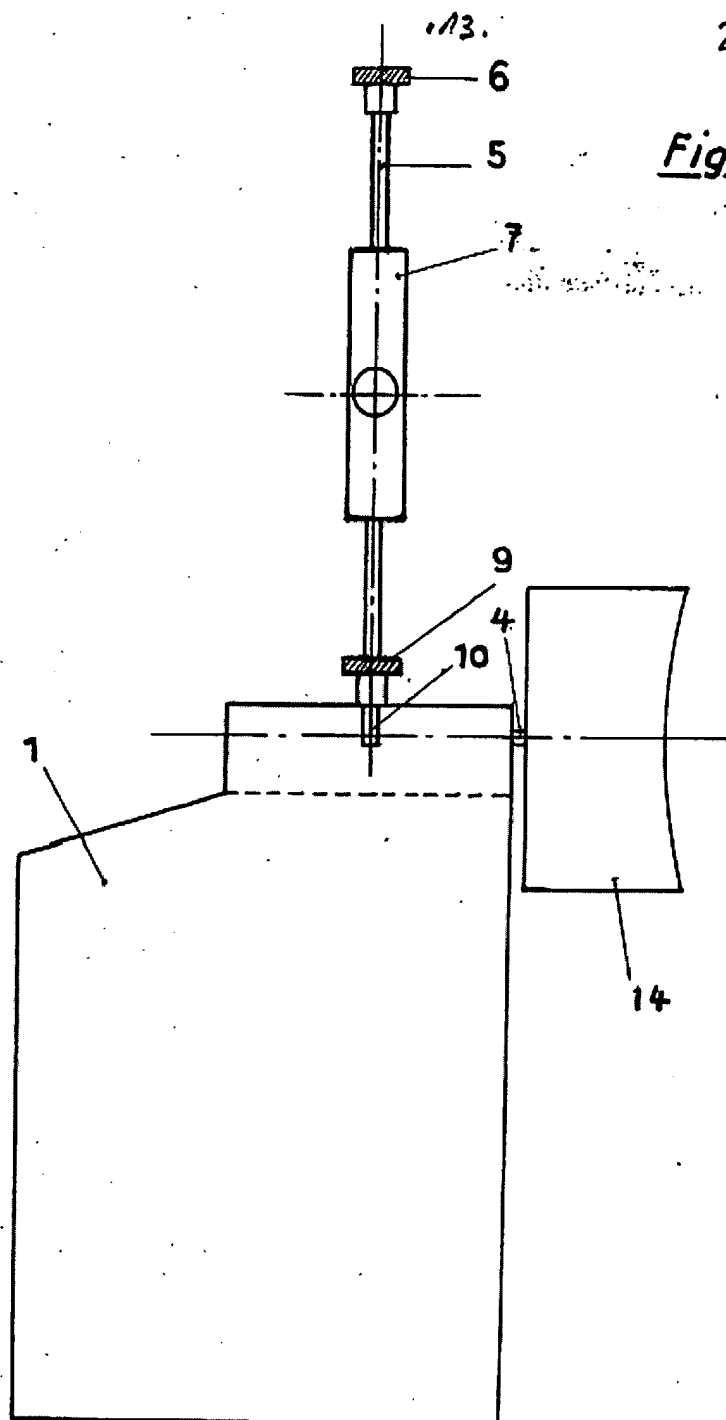
Within the framework of a modified embodiment form it is possible to directly arrange the blade, resp. the plate 1, in the interior of a channel, and, in such a way, the demand of air, the changes, or also yet the standstill, and the beginning of the ventilation can be controlled in accordance with the principle thus described. Moreover, it is also possible, to provide the device in accordance with the invention for the application purposes of control, resp. automatic control of a vacuum, control of a rapid combustion, resp. deflagration, or control of the pressure in

industrial installations or enterprises.

Translated by John M Koytcheff. M.Sc. (Civ. Engrg. & Water Engrg.);
WHO Postgrad. Fellow (Environm. Engrg.); Graduate, USNWC/USNC&SC.
The USPTO Translator from GERMAN & Germanic languages
USDoC/USPTO/STIC/Translations Branch
August 22, 2005

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Fig 1



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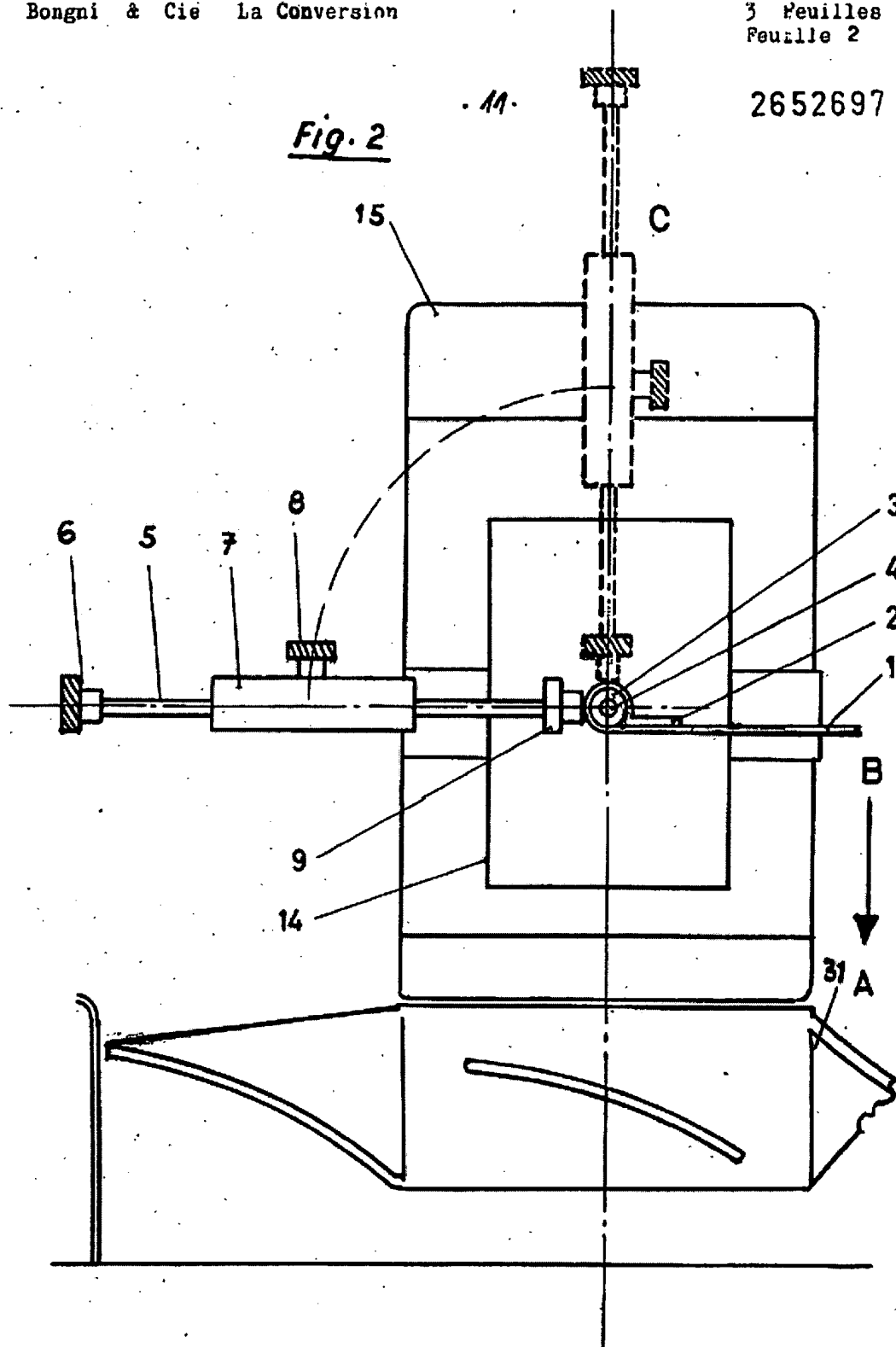
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Fig. 2



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- 12.

Fig. 4

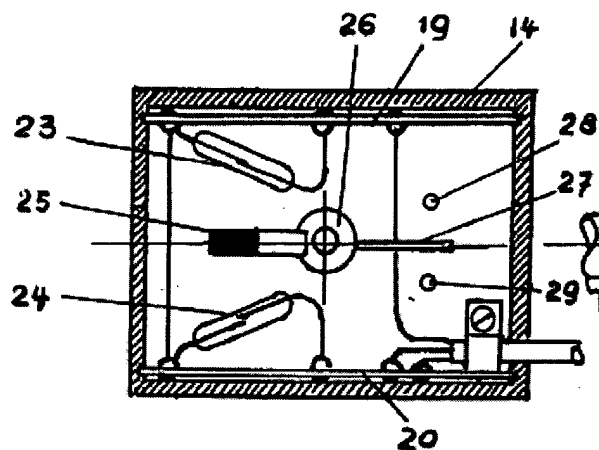


Fig. 5

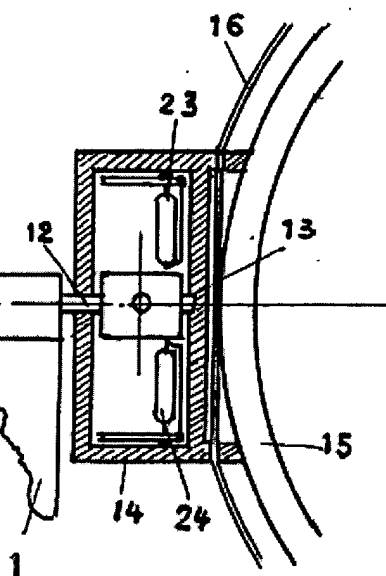
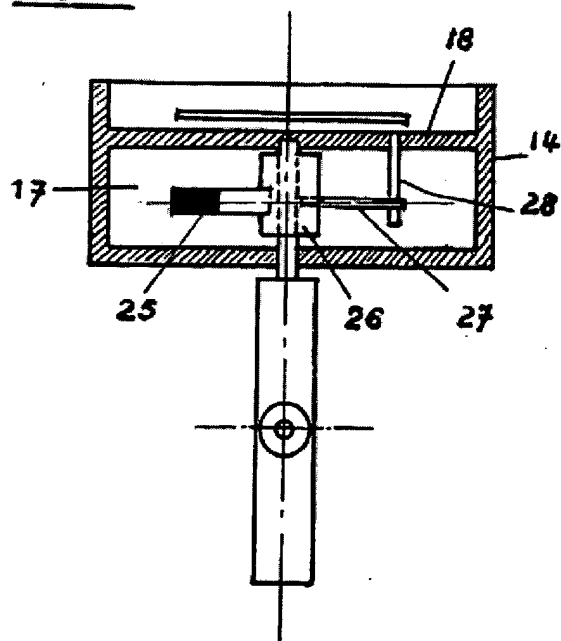


Fig. 3



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